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# **Air Force Medical Service WMD Emergency Response Program**



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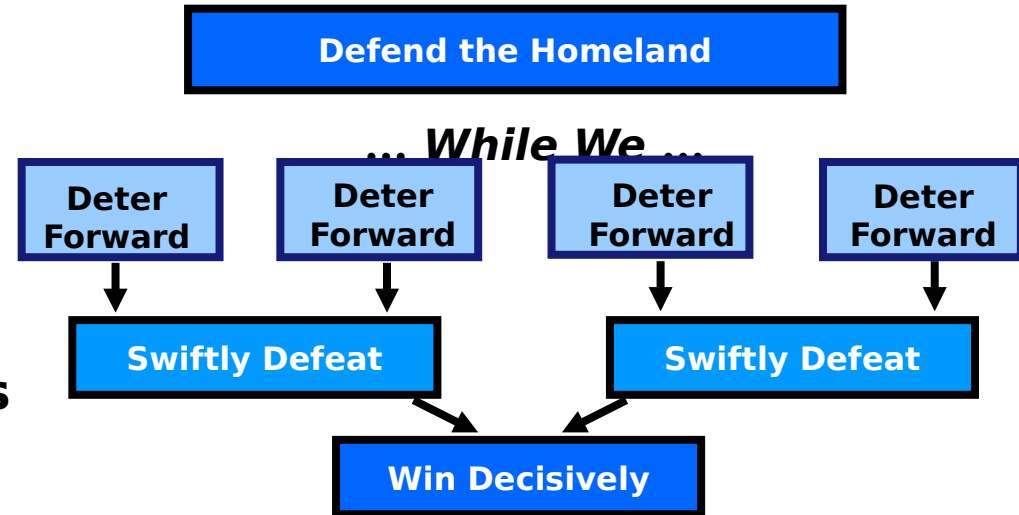
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# ***Introduction***

- **Overview of Air Force Medical Capabilities**
- **Employment Options**
- **Surveillance Equipment and Optimization**
- **Partnership Opportunities**
- **Discussion/Questions**



**“Defending our nation against its enemies is the first and fundamental commitment of the Federal Government.”**  
- 2004 National Security Strategy



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# ***Capability Overview***

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- **Concept: Initial response (1<sup>st</sup> 24 hrs); 300 casualties**
  - Includes contaminated casualties
  - Until follow-on resources arrive
- **\$53M worth of equipment, training, exercises, guidance support**
  - Patient Decontamination
  - Threat agent surveillance
  - CBRNE Medical treatment including pharmaceuticals
- **NIMS/DoD policy driving toward national standards**
  - NFPA 94 certified PPE
  - Proficiency testing standards

**AFMS WMD ER capability is an installation protection/response asset that may be leveraged by the local community and state provided the proper MOUs/MOAs are in place.**



# WMD Assets at AF Installations



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# Patient Decontamination

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## Description

- 2 Lane Expandable Tent
- Supplies: heater, bladder, litter roller, wet/dry vac, and medical accessories
- PPE: Level C with PAPRs
- Training: 2 Day course w/Tabletop exercise



- Operational ~~Issues~~ in 10-20 minutes
- Fire department decon inconsistent
- How clean is clean?
- First Receivers - training, PPE certification

## Update

- FY05 training refresh
- Revised guidance, incorporating OSHA guidelines
- Decon pavillion pilot project: Offutt AFB, NE





# ***Patient Treatment***

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## **Description**

- **Medical supplies to treat 300 CBRNE casualties**
- **Supplements existing disaster teams with mobile supplies, PPE, and security**



## **Issues**

- **Requirements for PPE**
- **Posturing equipment for response**
- **Training and Exercises**

## **Update**

- **FY05 Bag packing and training**
- **Revised/clarify implementation guidance**



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# ***Pharmacy Support***

## **Description**

- Scalable package to prophylax/treat 300 CBRNE casualties
- 3 Increments
  - Clinic
  - Hospital
  - Counter radiological

## **Issues**

- Suite of counter radiological drugs
- Mass prophylaxis plan



## **Update**

- None



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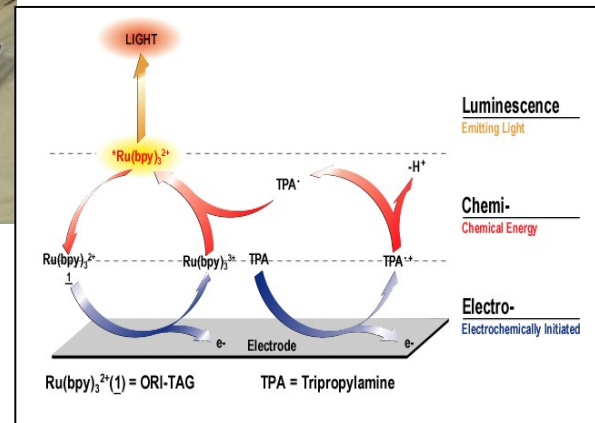
# Clinical Laboratory

## Description

- Disease surveillance, biological threat agent identification to support operational decisions
- Polymerase Chain Reaction - 52 AFBs
- 14 pathogen assays
- Electrochemiluminescence - 24 AFBs

## Issues

- 3 Toxin A assays
- Handling environmental samples in/out of medical facility
- Integration with Lab Response Network



## Update

- Sep 04 fielding of M1M instruments
- Sample collection/handling study





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# ***Full Spectrum CBRNE Threat Agent Surveillance***

## **Description**

- Provide identification and quantification of hazards
- Rapid health risk assessment



## **Issues**

- Interface with clinical laboratory; sample collection procedures
- Limitations of equipment
- Training

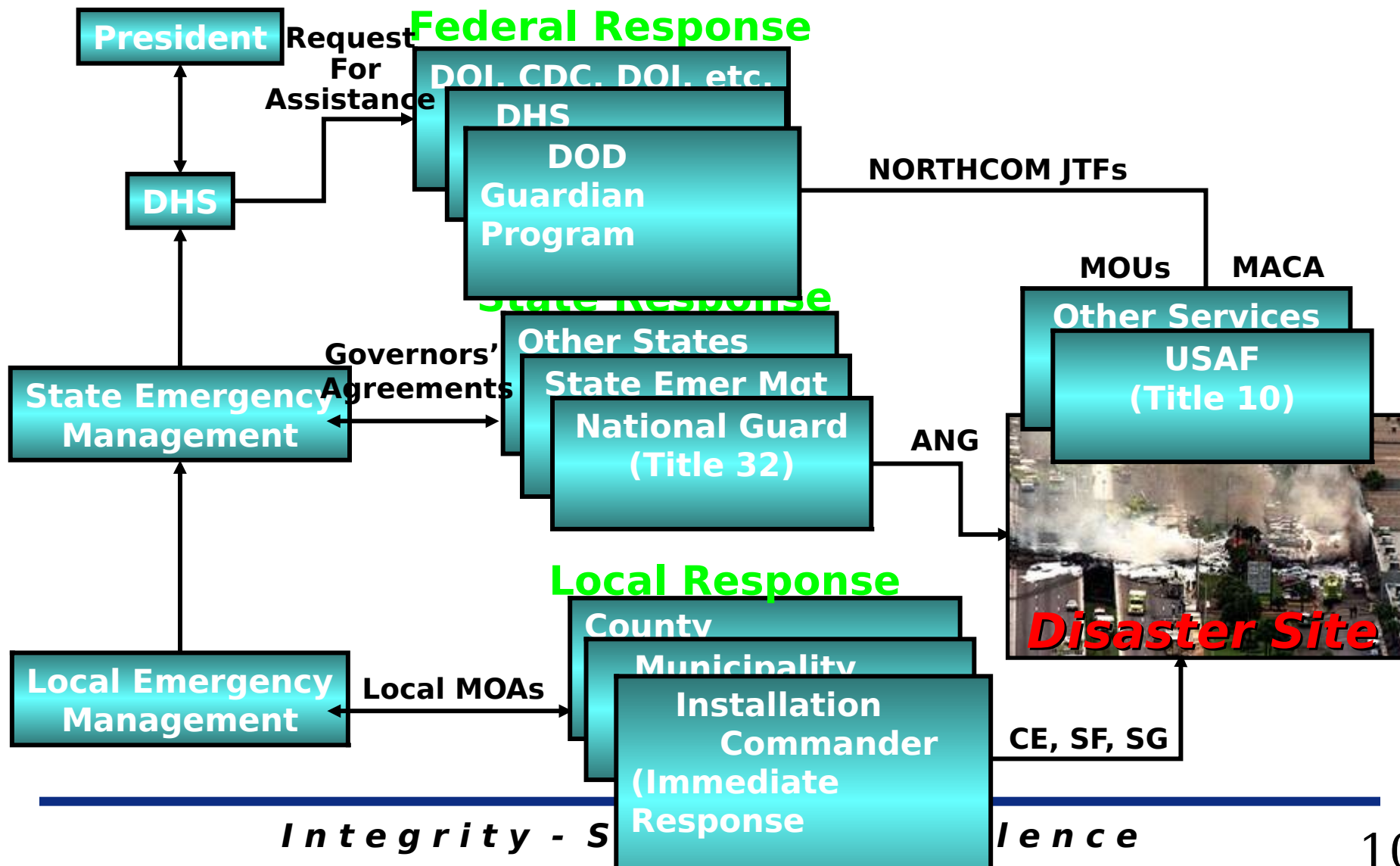
## **Update**

- New methods, libraries, and guidance
- Fielding upgrades for HAPSITE
- Implementing proficiency testing



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# Employment Options





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# ***HAPSITE GC/MS***

- **Capabilities**
  - Identification of volatile (easily evaporated) organic vapors
  - Multi use, multi-media sampling
  - Quantification (when calibration curves generated)
    - **Limit of Detection**
      - GB: 0.0001 mg/m<sup>3</sup>
      - VX: 0.0003 mg/m<sup>3</sup>
- **Limitations**
  - Only for specific range of molecular weight
  - Advanced skills required for equipment operation





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# ***HAZMAT ID System***

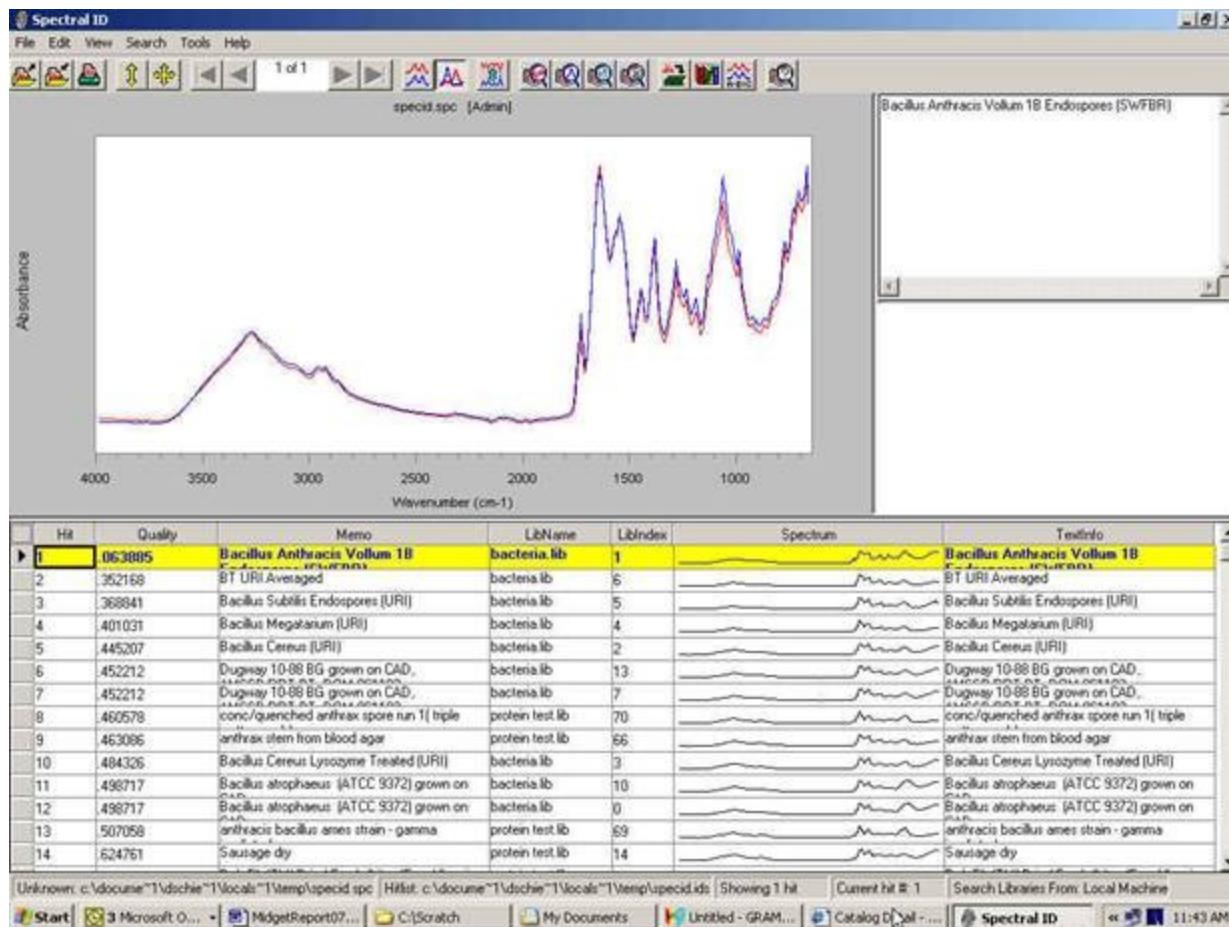
- **Capabilities**
    - Identification of solid or liquid chemical compounds
    - Uses Infra-red light to identify chemicals or mixtures
  - **Limitations**
    - Chemical or mixture spectrum must be in database
    - Can identify presence of biological material, but not specific pathogen
- However...**





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# Bacillus Anthracis Vollum 1B Endospores IR Spectral Library Search Evaluation



**First Derivative  
Normalized Dot Product  
Search**

~30,000 spectra

23 samples

Scores =  
.89123 ± .048

**Nearest Neighbor  
Scores =**  
.65765 ± .049

> 3 STD discrimination





# Equipment Optimization

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- **HAPSITE® Testing - Product enhancements:**
  - WMD-CST
- **HAPSITE® Optimization - Calibration curves:**
  - Marine Corps
  - Navy Environmental Health Center
- **HazMatID® Optimization - Toxins/Anthrax:**
  - Air Force
- **HAPSITE®/HazMatID® Course Curriculum Development**
- **Proficiency in Testing Quality Assurance Program (Proficiency Analytical Test (PAT) Rounds):**
- **USUHS Student Projects:**
  - Hapsite/SPME
  - Hapsite Transportability of Cal Curves Project
  - **HazMatID Pesticide Library Development**
  - Hach DR 4000 Project



• AF  
• Navy

• AF  
• Navy

• AF  
• Navy

• AF  
• CBIRF  
• Navy  
• NGB (CSTs)

• USAF  
• USN  
• USA

• FPAE  
JSWG



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# ***THE JOINT PREVENTIVE MEDICINE EQUIPMENT SUB-GROUP (JPMESG)***

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- **Executive Members (Policy)**

- **Voting Members:**

- **USACHPPM**
    - **NEHC**
    - **HQ ACC/SGPB**

- **Extended Members (Technical)**

- **Voting Members:**

- **MARCORSYSCOM**
    - **PM WMD-CSS**
    - **NGB**
    - **AFIOH**
    - **NEPMU (2 & 5)**
    - **CBIRF**
    - **United States Army Medical Material Development Agency (USAMMDA)**
    - **US Army Forces Command**
    - **U.S. Army AMEDD C&S, Directorate of Combat and Doctrine Development**
    - **Joint Staff J-4, Medical Readiness Division**

- **Partners**

- **Non-Voting Members:**

- **USA Chem School**
    - **Brooks Schoolhouse**
    - **USCG National Strike Force**
    - **NNMC**
    - **USUHS**

- **Others**

- **Non-Voting Members:**

- **Porton Down**
    - **Canadian Forces**
    - **By special invitation (i.e. manufacturers, contractors)**



# ***Partnership Opportunities***

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- **Joint Preventive Medicine Equipment Sub-Group**
  - Coordinates mutually beneficial equipment optimization
  - DoD services, other federal agencies, vendors, military allies
- **Participation in Exercises**
  - Guardian program - training, tabletop/field exercises
  - Code Silver - tabletop exercises focused on consequence mgt
- **Analytical Method and Library Development**
  - EPA Pesticide Library
  - HAPSITE/HAZMATID methods and calibration curves
- **Training**
  - Brownfields
  - Courses and curricula
- **Other Ideas - MOU, proficiency testing, in-line water monitoring**



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# ***Questions?***

**“The Homeland Security CONOPS recognizes that if someone attacks our homeland again, Air Force medical personnel will be an invaluable asset bringing a wealth of manpower and expertise to the crisis. In such a contingency, our base clinics and hospitals become part of the local health care disaster network. They offer their ability to help local authorities detect and identify chemical, biological, and nuclear weapons, and we aid in the treatment of those exposed to them.”**

**-- Lt Gen George Peach Taylor, Air Force Surgeon General**

**Capt Bob Campbell**

**DSN 574-1284**

**HQ ACC/SGPB**

**Chief, Medical Counterproliferation**

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**[https://www.sg.langley.af.mil/pls/SG/SG.www\\_main.main?  
p\\_language=us&p\\_cornerid=11418&p\\_currcornerid=1424&p\\_full=1](https://www.sg.langley.af.mil/pls/SG/SG.www_main.main?p_language=us&p_cornerid=11418&p_currcornerid=1424&p_full=1)**



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# ***Backup Slides***





# ***Employment Options***

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- **Prepare with community for integrated response**
  - Not always an “incident scene”
  - On/Off installation - MOU/MOA with community responders
- **Immediate Response On Base**
  - Response will be Bigger than on base resources
  - Need to look outside the gate vs. within service
- **Immediate Response Off Base**
  - When requested...unique assets...community partner
  - Example: Peterson AFB has MOU with Springs and Colorado



***I n t***

***Deter, Prevent, Defeat***

***n c e***



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# Doctrine

- **AFTTP 3-42.32: Home Station Medical Response to Chemical, Biological, Radiological, Nuclear, or High-Yield Explosives (CBRNE) Events - Capabilities-based Response** -- <https://www.afms.mil/sg/index.htm>
  - **Conduct Disease Surveillance**
  - **Vulnerability Assessments/ Intelligence**
  - **Capability Assessment**
  - **Maintain Response Equipment and Supplies**
  - **Recognize, Detect, and Identify CBRNE Agents**
  - **Secure/protect MTF and Personnel**
  - **Perform Health Risk Assessment and Communication**
  - **Triage CBRNE Casualties**
  - **Decontaminate Casualties at the MTF**
  - **Diagnose and Treat CBRNE Casualties**
  - **Integrate Response Effort with Follow-on Teams**

Casualty  
Prevention

Casualty  
Management



# Lab Response Team

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- Ruggedized Advanced Pathogen Identification Device (RAPID)
  - Polymerase Chain Reaction Technology
  - Identifies 14 Pathogens (Several Probes Each)
  - **Several More Under Development**
- Part of Lab Response Network
- 52 AFBs

## BW Probes

Anthrax

Yersinia pestis

Francisella tularensis

Brucellosis

Variola

Glanders (B. mallei)

**Alpha viruses**

**CCHF**

## Clinical Agents of Significance

Salmonella (2)

Streptococcus

pneumoniae

E. coli (2)

Vibrio cholera

Campylobacter species

Dengi, **West Nile Virus**

**Shigella**

**Influenza**



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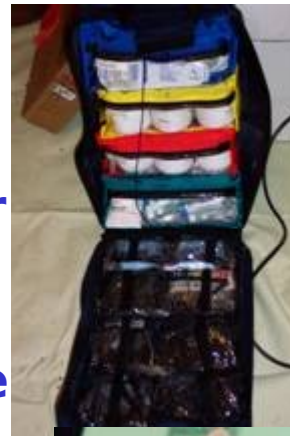


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# Full Spectrum CBRNE Threat Agent Surveillance



HAPSITE  
HAZMAT ID  
Gamma-Ray  
Spectrometer  
XMX



HAZCAT kit  
Detector tube  
sets

Ion Chamber  
RADECO HVAS  
Electronic  
timers



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# ***Exercises***

- **Decontamination Training TTX**
- **Immediate Medical Response Training TTX**
- **Texas A&M Engineering Extension (training, TTX, FLDX)**
- **Code Silver**
  - **Team building exercise**





# FY04 - Guardian Installations

## WASHINGTON

- Ft. Lewis
- Naval Station Bangor

OHIO  
Wright-Patterson AFB

MARYLAND  
Andrews AFB

DC  
The Pentagon

KENTUCKY  
Ft. Campbell

OKLAHOMA  
Tinker AFB

CALIFORNIA  
Naval Station San Diego

NORTH CAROLINA  
Ft. Bragg

VIRGINIA  
• Langley AFB  
• Naval Station Norfolk

TEXAS  
Ft. Hood

GEORGIA  
• Ft. Gordon  
• Robins AFB  
• Kings Bay Naval Base

# FY05 - Guardian Installations

## ALASKA

• Elmendorf AFB

## WASHINGTON

- Naval Station Everett
- Naval Station Bremerton

## CONNECTICUT

- Naval Submarine Base - New London

## NEW JERSEY

- Ft. Dix

## ILLINOIS

- Rock Island Arsenal

## DC

- GSA
- Washington
- Naval Yard

## COLORADO

• Peterson AFB

## CALIFORNIA

• MCB Camp Pendleton

## NEW MEXICO

• Holloman AFB

## LOUISIANA

• Barksdale AFB

## GEORGIA

• Ft. Benning

## VIRGINIA

- Ft. Eustis
- Naval Air Station Oceana

## HAWAII

- Ft. Shafter
- **Hickam AFB**
- Schofield Barracks & Wheeler AFB
- Naval Station Pearl Harbor

## FLORIDA

- **Hurlburt Field**
- Naval Station Mayport



# FY06 - Guardian Installations

## WASHINGTON

- **McChord AFB**
- Naval Air Station Whidbey Island

## CALIFORNIA

- Naval Weapons Station Seal Beach
- **Sierra Army Depot**
- Naval Base Coronado

## NEW MEXICO

**Kirtland AFB**

## ARIZONA

**Davis-Monthan AFB**  
**Luke AFB**

## MISSOURI

**NIMA Arnold**

## NEBRASKA

**Offutt AFB**

## KANSAS

**Ft. Riley**

## TEXAS

**Red River Army Depot**

## NEW YORK

**Ft. Drum**

## WEST VIRGINIA

- Naval Security Group Activity Sugar Grove

## NORTH CAROLINA

- MCB Camp Lejeune, NC/MCAS New River
- **Pope AFB**

## ALABAMA

- Anniston Army Depot
- Redstone Arsenal

## GEORGIA

**Ft. Stewart**

## NEW JERSEY

- **McGuire AFB**
- Naval Weapons

Station Earle

## MARYLAND

**Ft. George G. Meade**

## WASHINGTON DC

- **DISA-WHCA-White House**
- Naval District-Wash

## VIRGINIA

- **Ft. Belvoir**
- Naval Amphibious Base Little Creek

## SOUTH CAROLINA

- MCAS Beaufort
- **Shaw AFB**

## FLORIDA

- **MacDill AFB**
- Naval Air Station Jacksonville



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# **CODE SILVER**

## ***Objectives/Participants***

- **Participants**
  - **Medical Disaster Team Chiefs - Medically centric**
  - **Installation IRE/DCG Representatives**
  - **Community Representatives**
- **Objectives - stress you without white flag!**
  - **Identify Plan Shortfalls/LIMFAC**
    - **Base records action points**
    - **Base prioritizes and works**
  - **Cultivate/Mature Relationships**
  - **Sustainment training tool left**
  - **Focus on consequence mgt**
- **Not focused specifically on exercising command and control**



***No-Fault exercise, general issues compiled/forwarded***



# ***Defense Support to Civil Authorities***

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- **Presidential authority** under the Robert T. Stafford Disaster Assistance and Emergency Relief Act.
- **Secretarial Authority** under DODD 3025.1, MSCA.
- **Local Military Commander's Immediate Response Authority** under DODD 3025.1, MSCA.
- **MOUs and MOAs with Civilian Organizations (local, state)**

**“The Homeland Security CONOPS recognizes that if someone attacks our homeland again, Air Force medical personal will be an invaluable asset bringing a wealth of manpower and expertise to the crisis. In such a contingency, our base clinics and hospitals become part of the local health care disaster network. They offer their ability to help local authorities detect and identify chemical, biological, and nuclear weapons, and we aid in the treatment of those exposed to them.”**

**-- Lt Gen George Peach Taylor, Air Force Surgeon General**



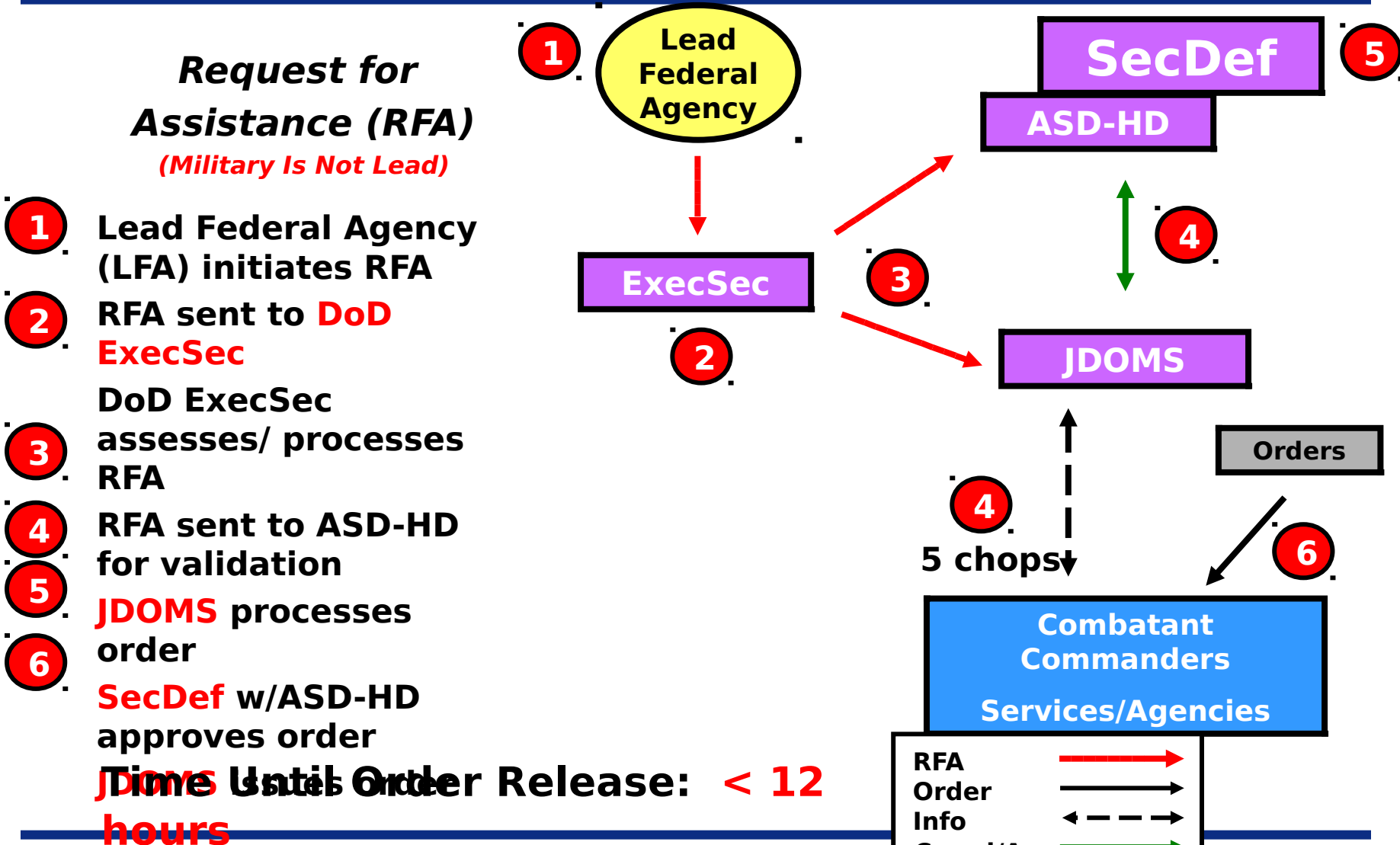
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# Initial Request for Assistance (RFA)

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## Request for Assistance (RFA) (Military Is Not Lead)



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